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ARTIFICIAL DILATATION OF THE NON-PREGNANT UTERINE CANAL.*

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Before entering upon the subject of my paper I wish to thank you for the honor you have done me in inviting me to read a paper before you. It is almost impossible, at the present day, to find any subject in gynæcology which has not been written upon time and again, and my object in choosing the following was a desire to show that a painful and troublesome gynæcological affection may frequently be cured not only without the use of the knife but also without the use of even an anæsthetic.

Artificial dilatation of the unimpregnated uterus has been practiced for many years. One sees in text-books that Sir J. Y. Simpson, on observing the gradual dilatation of a cervix by a polypus which was forcing its way through it, was struck with the idea that it would be feasible and useful to dilate the cervical canal for diagnostic and therapeutic purposes. This would lead you to think that he was the first to employ this method of diagnosis and treatment, but, in Simpson's own writings, he speaks of the great success of a Dr. Mackintosh in treating obstructive dysmenorrhœa by dilatation of the cervical canal. Mackintosh used a series of graduated bougies which were straight, but Simpson had them slightly curved so as to agree with the uterine curve. This occurred over fifty years ago, and, although gynæcology has made such strides since then, you will agree with me, later on, I hope, that this old-fashioned method of treatment is the best for a certain class of cases of dysmenorrhœa.

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This dilatation is for two purposes—viz. : 1. Diagnostic, as where you wish to ascertain the cause of hæmorrhage from the uterus; 2. Therapeutic, as where you wish to apply medicaments to the internal surface of the uterus.

The time chosen for this treatment depends entirely upon the effect which is desired. If it is simply for the purpose of exploring the uterine cavity, the best time is toward the end of menstruation, when you will find that the cervical tissues are soft and dilatable. Braithwaite, of London, in an able article upon the Artificial Dilatation of the Unimpregnated Uterus, says that "the time chosen should be the last day of the period—just when the discharge is ceasing or has ceased." This is his advice, no matter for what purpose you are dilating, but it is probably not the best practice when your object is the cure of obstructive or spasmodic dysmenorrhœa. This symptom (for dysmenorrhœa merely is a symptom) is due to the contraction of the circular muscle fibers in the vicinity of the internal os. In order to cure this trouble, you will require to overstretch and tire out these fibers. If then you pass your dilators at a time when these fibers are soft and in a passive condition, it appears to me that you fail in that thorough stretching or tiring of the tissues which is necessary for a successful result. Therefore, where you are endeavoring to cure spasmodic dysmenorrhœa, the time to choose for dilating is between the periods. In fact, this is the best time for all therapeutic dilatation, except in cases where you suspect the presence of retained products of conception and wish to remove them.

Cervical dilatation is produced either gradually or rapidly, and each method has its advantages and disadvantages. Gradual dilatation is performed at several sittings, but requires no anæsthetic, whereas rapid dilatation is completed at one sitting, but complete surgical anæsthesia is required, as is also rest in bed for a few days after it.

Rapid dilatation is produced either by means of graduated bougies or by the glove-stretcher form of dilator of either Goodell or Sims. Of the two latter, Sims' is the best, as it has three arms instead of two, and therefore dilates the cervix more equally. In using either of these instruments one has to exercise great care and to keep turning them in all directions, so as to avoid tearing the cervix. They possess one great advantage over the graduated bougies for rapid dilatation in that they do not exert any upward force upon the uterus, while with graduated bougies great traction has to be exerted in a downward direction by tenaculum forceps, which is frequently dragged out,

tearing the cervix and suddenly releasing the uterus, which is then apt to be thrust suddenly upward.

Phillips records thirty-one cases in which he performed rapid dilatation by means of Hegar's dilators, seventeen being for dysmenorrhœa and fourteen for the removal of retained products of conception. The average time occupied was 34.12 minutes. He speaks very highly of the use of these dilators, but the work can be done in half the time with perfect safety and almost no after-disturbance by the Goodell or Sims instrument.

Gradual dilatation is usually effected in one of four ways :

I. Aseptic gauze is torn into narrow strips and packed firmly into the uterus. This is removed in twenty-four hours, when the uterus will be found somewhat dilated. The cavity is repacked on successive days until sufficient dilatation has been produced.

II. Tents of elm, laminaria, sponge, or tupelo may be used, but are not to be recommended, as it is almost impossible to render them aseptic, and they are painful. Elm and laminaria are best, although as late as 1891 Swayne, of Bristol, wrote that he had never had any trouble from the use of sponge tents, although in twenty years he had used them nineteen times to induce premature labor. At the time of writing he had given up using the sponge tents for the above purpose, but he still employed them to dilate and plug the cervix in cases of incomplete abortion.

III. Another method is by electrolysis, using a bulbous-pointed electrode attached to the negative pole as the intra-uterine electrode. For this purpose you require but low currents, not using more than eight or ten milliampères. The writer has never used this method, so can not vouch for its usefulness.

IV. We now come to the fourth and much the best method of producing gradual dilatation of the uterus—viz., by means of graduated bougies. These are made of glass, vulcanite, or metal of various patterns. For all practical purposes, the vulcanite ones are those to be recommended, as they are cleanly, light, durable, and cheap.

Lawson Tait introduced a set of straight vulcanite cones of varying sizes which screwed on to a stem of the same material. The distal end of the stem was perforated to allow of elastic bands passing through from a belt. The patient wore this instrument, and the dilating pressure was produced by the elastic bands. These are absolutely dangerous, as you can not regulate the direction of the force, and so might very easily perforate a soft uterus; nor have you any guarantee that the patient will not make some sudden movement by

which the stem may be thrust violently upward and do her untold mischief.

Hanks' or Hegar's are the best instruments to use for this purpose, and, of the two, I prefer Hanks', as being more easily manipulated. These, as you will remember, consist of a straight stem, at each end of which is a curved bougie, two inches and a quarter long, with a shelf or shoulder at the base. They are numbered from 9 to 18, but, as this latter is scarcely large enough for some purposes, Mr. J. H. Chapman has had Nos. 19 and 20 added, which make the set very complete.

In my own practice, they are used with the patient in the Sims position. The dilators are immersed in carbolic lotion (1 to 40) and the patient's vagina is well swabbed out with the same solution, using a Sims speculum. After well lubricating the dilator, it is passed just as you would pass an ordinary uterine sound, but much more slowly, using the index and middle fingers of the right hand to guide it to the os. At the first sitting I begin with No. 9, and pass as many as the patient can readily stand. If Nos. 9, 10, and 11 are passed at the first sitting, I begin with No. 10 at the next, the treatment being given twice or three times a week, according as you find the uterus very sensitive or not. A glycerin plug, with or without ichthyol, is introduced into the vagina close up to the cervix, but is withdrawn by the patient on the morning of the next visit, when she also takes a hot douche. These sittings are continued until the desired result is attained, the number varying in each case.

The *indications for rapid dilatation* are (a) operations on the interior of the uterus—*e. g.*, curetting, removal of tumors, or retained products of conception, etc.; (b) digital exploration of the uterine cavity in cases of pathological hæmorrhage from the uterus when other means of stopping it have failed.

For *gradual dilatation* they are (a) endometritis, to allow of applications being made to the endometrium and for drainage; (b) dysmenorrhœa and sterility, when due to spasm or closure of the cervical canal, especially at the internal os.

Contraindications are (a) pregnancy, (b) acute metritis or endometritis, (c) acute or subacute inflammation of the ovaries and tubes.

In all forms of dilatation of the uterine cavity strict antiseptic precautions must be observed or you will be almost certain to have more or less septic trouble.

CASE I.—Mrs. H., aged twenty-nine years, multipara. Complaints were pains in both ovarian regions, at times shooting down the inside of

the thighs ; pain in the lower part of the back ; leucorrhœa ; and pain at the menstrual periods for the last six months. Menstruated first when fourteen years of age ; always regular. Twenty-eight-day type, lasting four days. Two children, youngest being four years old. Had one miscarriage at six months, three years ago.

Per vaginam cervix is felt to be small, hard, and torn on the left side. Fundus is enlarged and bent forward. A sound can only be passed one inch into the cervical canal, probably on account of acute flexion and stenosis.

Treatment.—Cervix softened by hot douches thrice daily and a glycerin plug at night for ten days, at which time the sound could be passed with ease upon exerting gentle but firm pressure. Bougies were now used, No. 10 being the only one employed at the first sitting, and Nos. 9 and 10 at the second, after which menstruation came on and was quite painless. Altogether, this patient received five treatments with the bougies, the largest passed being No. 15, and the use of glycerin plugs was continued all through. She remained well for six months, when there was a slight return of the pain ; but two treatments by dilatation and the application of iodine to the endometrium, together with the use of glycerin plugs, cured her. This was five years ago, and her family physician, as well as patients whom she has sent to me, report that she is still quite free from her aches and pains.

CASE II.—Mrs. S., aged thirty-six years, multipara. She consulted me on June 27, 1892, for headache, especially just before her periods, and also pain in the lower part of her back, both complaints having existed for some years.

Vaginal examination revealed ante flexion of the uterus and slight hæmorrhagic endometritis. The cervix was dilated up to No. 12 bougie, iodine was applied to the endometrium after this had been wiped clean, and a glycerin plug was inserted into the vagina. The patient only received five other treatments, in which, however, iodized phenol was used instead of iodine. After two treatments this patient expressed herself as being very much relieved, although she was not quite cured when I lost sight of her at the end of August, when I went away for my vacation.

CASE III.—Mrs. McL., aged twenty-eight years, unipara. This patient's complaint was hæmorrhage from the vagina between her periods. Hæmorrhagic endometritis, with very small cervical canal, was diagnosed.

This patient received four treatments, consisting of dilatation of

the uterine canal, the application of iodized phenol to the endometrium and a glycerin plug in the vagina, together with one drachm of compound syrup of hypophosphite (Fellows') in water thrice daily. The result was a complete cure.

CASE IV.—Mrs. B., aged twenty-six years, unipara, consulted me for indefinite pain in the pelvis, which had lasted for about four years, but which was unaffected by her periods.

Per vaginam, the os was felt to be gaping, the cervix soft, and corpus uteri anteflexed, enlarged, and prolapsed.

This lady required nine treatments by dilatation, the application of iodized phenol to the endometrium, and the constant use of the glycerin plug before she was cured.

CASE V.—Mrs. H., aged thirty years, unipara, the child being five years old. This patient complained of intense pelvic pain coming on two days before the flow, and confining her to bed. The menstrual fluid clots. She had one miscarriage before her child was born.

Per vaginam, the uterus is felt to be anteflexed, with profuse leucorrhœa pouring from the os. Left ovary is prolapsed, large, and tender.

After the ovaritis had been reduced by iodine, hot douches, and the glycerin plugs, treatment of the anteflexion and endometritis was begun by dilatation, etc., as in the other cases. After thirteen sittings the dysmenorrhœa was completely cured, the anteflexion was much less acute, and the ovary was higher up, smaller, and less tender. Since ceasing treatment this patient has had two pregnancies.

CASE VI.—Mrs. B., aged thirty-five years, multipara, all of her children being born dead. This patient complained of metrorrhagia. The uterus was low down, and the seat of endometritis, metritis, and the vaginal walls lax. The left ovary was enlarged, prolapsed, and tender. The ovarian tenderness was first relieved, as in the last case, after which the uterus was treated by gradual dilatation and application to the endometrium of iodized phenol nine times, a cure resulting.

The above half dozen cases have been taken at random from my case book, and may be considered examples of cases treated by the method described in this paper. All of the patients have been heard from recently and remain quite well, and sufficient time has elapsed to judge of the result, as the patients have received no treatment for from one to four years.

This treatment is not to be considered a panacea for all of the ills that female flesh is heir to, but will undoubtedly be found beneficial

in the vast majority of properly selected cases. It may be argued by some that it was the glycerin and iodine, and not the dilatation, which effected the good results. To these persons I would say, let them try the two forms of treatment, when I am sure that they will be convinced that the dilatation, by stretching the fibers and allowing of a free discharge of all contents from the uterine cavity, is the chief factor in producing the happy results.

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